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may have been conditions greatly assisting me in the observation. It may be noted that a young friend who was with me at the time also saw it in the large telescope, but could not see it in the small one.

18 Preston Street, Brighton.

Note on the Preparation of Speculum Metal, by R. L. J. Ellery, F.R.S., the Observatory, Melbourne.

(*Communicated by J. Browning, Esq.*)

In a letter I have received from Mr. Ellery, the following remarks referring to reflecting telescopes, and the preparation of speculum metal, are so interesting that I think they will be considered worthy of a place in the Proceedings of the Society.

Mr. Ellery says, "That for amateurs and many others glass specula up to 10-in. or 12-in. diameter will nearly always be preferred : but that for dimensions greater than these metal would be found the best for many reasons. First, among these is the difficulty of supporting large glass surfaces, and the greater effect strains, whether from defective annealing or defective support, would have upon glass.

"I believe metal surfaces would last almost any time if the metal itself were properly made, and with only ordinary care taken of the polished surface.

"My attention has been drawn to a very important point as regards speculum metal by a gentleman here who has produced a composition the whitest, densest, and most difficult to tarnish I have ever seen, and he has effected this by the most scrupulous avoidance of contact with any iron while the metal was in a molten state. I could not have believed that merely stirring with an iron rod would make such a difference as it does. The metal that has come in contact with iron is always yellower or browner than that which has not, and certainly tarnishes much quicker."

A Method for determining the Heat-radiation from the Solar Spots. By Dr. Lohre, of the Bothkamp Observatory.

(*From a Letter to the Foreign Secretary. Translation.*)

The importance which a correct answer to the question, "Do Sun-spots exhibit a marked difference of heat-radiation from that of the surrounding solar surface?" has upon our interpretation of the processes going on in the Sun induced me to search for some easier way of solving this problem than the ordinary thermo-electric method. It occurred to me that some chemical compounds, which, as is well known, exhibit under a very moderate heat a

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visible change of their chemical constitution or molecular structure, might be applicable for this purpose. Chloride of cobalt, as the most easily obtained, was first selected for trial. Subsequently I found that this salt is to be preferred for several reasons. The experiments made at present do not authorise me to consider the above question as definitively answered; but I will describe briefly the method of making them, and the result I obtained, in the hope that the very simple process may be tried when a large spot appears on the sun.

A sheet of the finest grained white paper is to be floated for four minutes on a solution of one part of crystallised chloride of cobalt to three parts of water, and then dried by exposure to the air. This prepared paper, which is of a pale red colour, is stretched on a frame which can be fixed at the focus of the 11-in. refractor of this observatory. This paper is then exposed for about two minutes to the Sun's image, the full aperture of the telescope being used.

A well-defined blue image of the Sun appears on the paper, in which the diminution of heat-radiation at the Sun's limb is plainly seen. Up to the present time no trace could be discovered of the *small* spots on the Sun. It is, therefore, important that the experiment should be repeated when a large spot presents itself. Unfortunately since the end of May the weather has been unfavourable and no large spot could be observed.

Discovery of Minor Planet (133) *by Prof. Watson.*

On the evening of August 18, the Astronomer Royal received a telegram from Professor Henry, of the Smithsonian Institution, announcing the discovery by Mr. Watson, of Ann Arbor, of a new Minor Planet (133). It was observed on the night of August 19 at Marseilles and Vienna.

The following observations were made by M. Stéphan at Marseilles:—

1873.	Marseilles Mean Time.	R.A. (133).	1 (par. × Δ),	N.P.D. (133).	1 (par. × Δ).	Star of Comp.
	h m s	h m s		° ′ ″		
Aug. 19	14 10 39	23 0 38·20	+9·079	92 43 30·6	−0·8059	*a*
20	12 36 48	22 59 56·30	−8·682	92 45 30·7	−0·8069	*b*
21	13 29 15	22 59 6·67	+8·775	92 47 41·7	−0·8073	*c*

Mean Position of the Comparison Stars for 1873·0.

		Mag.	R.A.	N.P.D.
			h m s	° ′ ″
a	W. B. xxii. 1237	9	22 59 26·99	92 46 22·7
b	*	9	22 58 54·69	92 45 32·8
c	W. B. xxiii. 3	8-9	23 2 31·10	92 56 36·7

The planet was discovered on the night of August 16–17.

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